

R E M A R K S**Summary of Office Action**

Claims 1-18 are pending in the above-identified patent application.

Claims 1-15 and 18 have been rejected under 35 U.S.C. § 102(b) as being variously anticipated by one or more U.S. patents: claims 1-2, 13, and 18 by Fendya et al. U.S. patent 5,679,249 ("Fendya"); claims 1, 9, 10, 13, 14 and 18 by Ahlberg Jr. et al. U.S. patent 4,925,557 ("Ahlberg"); claims 1-4, 6, 8 and 13 by Kasten U.S. patent 3,737,036 ("Kasten"); and claims 1-4, 6, 8 and 13 by Pall et al. U.S. patent 3,737,036 ("Pall"). Claims 14 and 15 have been rejected under 35 U.S.C. §103(a) as being obvious from Pall in view of Arterbury et al. U.S. patent 5,293,935 ("Arterbury"). The Examiner indicates allowable subject matter in claims 16 and 17. However, claims 16 and 17 have been objected to as being dependent from a rejected base claim, but would be allowable if rewritten in suitable form.

Applicant's Reply

Applicant appreciates Examiner's indication of allowable subject matter in claims 16 and 17. Applicant expressly reserves the right to rewrite these claims in suitable form for allowance if their base claim(s) are ultimately disallowed.

Applicant has amended claims 1 and 13 to more clearly define his invention.

Applicant respectfully traverses the prior art rejection.

Claim 1

The elements of applicant's inventive filter plate, according to claim 1, includes a include a filter member arrangement made of one or more distinct filtering layers housed in a chamber in a filter body. A drainage channel is provided in the chamber on the downstream side of the filter arrangement to drain filtered fluid. The filter layers are sintered together to each other and to the filter body itself. The sintering processes allow the filter medium arrangement to be configured so that a filter cake is deposited from the fluid filtration on the filter plate for later removal. The later removal of a deposited filter cake may, for example, be accomplished by backflow of fluids through the filter body.

Applicant respectfully submits that the elements of claim 1 are not disclosed, taught or suggested by either the Ahlberg, Arterbury, Fendya, Kasten, or Pall references cited by the Examiner. For example, none of these references discloses, teaches or suggests a filter arrangement in which layers are sintered to each other and also the filter body in which the filter layers are housed.

First in alphabetical order among the cited references, Ahlberg describes a rotating membrane filter unit which includes porous-membrane covered discs. The porous membranes, which are made of sintered material, are clamped or welded to the discs. (See e.g., col. 1:54-66).

Arterbury describes a tubular sand screen made of porous material for extraction of oil, for example, from oil wells (FIG. 1). Arterbury's porous material is a block of sintered metallic powder (e.g. screen body 42, col. 5 lines 60-64). The screen body is attached to a mandrel by end welds. (See e.g., col. 5 lines 56-58).

Fendya describes a dynamic filter system that includes one or more filter elements arranged to rotate in housing. The filter elements comprise porous materials (e.g. metal or ceramic or polymeric membranes) that are mounted on a filter plate by heat sealing, welding, or means of solvents or adhesives. (See e.g., col. 8:2-4, 38-48). Fendya describes the use of heat sealing in the context of polymeric membranes (See e.g. FIG. 2, col. 8:43-47). Applicant respectfully submits that the Examiner mistakenly equates the phenomena of “heat sealing” of polymers or plastics with the phenomena of “sintering” of metals or ceramic materials (Office Action, paragraph 3). The two terms refer to different and distinct thermo-physical processes, which are used for different material categories and result in material with different and distinct metallurgical and other characteristics. Fendya makes no reference to sintering of metal or ceramic membranes to connect them to the filter plate.

Kasten describes a filter arrangement for molten polymer processing in which a plurality of filter elements is disposed in a filter cavity. The filter elements include an assembly of filtering meshes that are diffusion bonded and sealed at the edges by crimping, welding or sealing. (See e.g., Abstract, col. 2:65-col.3: 2).

Lastly, Pall describes a filter segment disc in which a filter medium is supported on a drainage mesh. The filter media include a porous metal membrane and porous metal fiber layer that are sealed to one another at the outer edge of a disc by a welded bead. (See e.g., col. 5:61-65).

Thus none of the cited references disclose, teach, or suggest: (1) sintering distinct filter medium layers together in an filter medium arrangement, and (2) sintering the filter medium arrangement to the filter body itself, as called out by claim 1. Accordingly, at least for

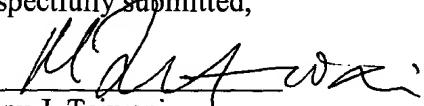
this reason, claim 1 is patentable over these references. Further, claims 2-18 that depend on claim 1 also are patentable.

Conclusion

For the reasons set forth above, applicant requests that the prior art rejections be withdrawn. Applicant respectfully submits that this application is now in condition for allowance. Reconsideration and prompt allowance of which is respectfully requested.

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Respectfully submitted,



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